

ABSTRACT OF THE DISCLOSURE

The invention discloses design concepts and means and methods that can be used for enhancing the reliability and extending the operating life of electronic devices, and assemblies incorporating such devices, and substrates and/or PCBs, especially if such assemblies are exposed to severe environments such as thermal cycling or power cycling. The main thrust of the invention is to provide flexible joints, such as columns, between the attached components, and preferably to orient such joints, so that they would present their softest bending direction towards the thermal center or fixation point of the assemblies. Joints with rectangular or elongated cross-section are preferred, and they should be oriented so that the wide face of each joint would be facing the thermal center, perpendicular to the thermal deformation ray emanating from the thermal center towards the center of each respective joint. The concepts apply equally to leadless packages as well as to leaded packages.

NOTE:

Please use Figure 5, Drawing Sheet 5 of 92 in conjunction with this Abstract.